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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,737	07/01/2003	Ko Masuda	AB-1324 US	5640

7590 02/01/2005

MacPherson Kwok Chen & Heid LLP
Suite 226
1762 Technology Drive
San Jose, CA 95110

EXAMINER

EDELL, JOSEPH F

ART UNIT	PAPER NUMBER
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3636

DATE MAILED: 02/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/613,737

Applicant(s)

MASUDA ET AL.

Examiner

Joseph F Edell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. Figure 8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:
- a. page 12, line 11, "piston 25" should read --piston 21--;
 - b. page 12, line 18, " engagement piece 20" should read --engagement piece 29--.
- Appropriate correction is required.

Claim Objections

3. Claim 5 is objected to because of the following informalities: "being" (line 6) should read --each being--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by JP Patent No. 05-229378 to Yamamoto.

Yamamoto discloses a vehicle occupant restraint system that includes all the limitations recited in claims 1 and 2. Yamamoto shows a restraint system having a restraining member 30 (Fig. 4) supported by a seat frame 20 (Fig. 1) so as to be movable between a retracted position (Fig. 1) and a deployed position (Fig. 3), a crash sensor 32 (Fig. 1) with a crash prediction sensor and a control unit, a power actuator 26 (Fig. 1) moving the restraining member from the retracted position to the deployed position via a power transmitting member (Fig. 1) upon detection and/or prediction of a vehicle crash such that the restraining member cannot move from the deployed position to the retracted position by an external force to the restraining member but can move from the retracted position to the deployed position and from the deployed position back to the retracted position by a force transmitted from the power actuator to the restraining member via the power transmitting member.

6. Claims 1, 2, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,556,160 to Mikami.

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Mikami discloses a vehicle occupant restraint system that includes all the limitations recited in claims 1, 2, and 4. Mikami shows a restraint system having a restraining member (Fig. 4) supported by a seat frame 10 (Fig. 4) so as to be movable between a retracted position (Fig. 4) and a deployed position (Fig. 4), a crash sensor (see column 7, lines 47-51) with a crash prediction sensor and a control unit, a power actuator 44 (Fig. 4) moving the restraining member from the retracted position to the deployed position via a power transmitting member 46 (Fig. 4) upon detection and/or prediction of a vehicle crash such that the restraining member cannot move from the deployed position to the retracted position by an external force to the restraining member but can move from the retracted position to the deployed position and from the deployed position back to the retracted position by a force transmitted from the power actuator to the restraining member via the power transmitting member wherein the restraining member has a laterally extending member 40 (Fig. 4) located under a seat bottom 12 (Fig. 4) at a middle point of the seat bottom and a pair of arms (Fig. 4) pivotally supporting the laterally extending member.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mikami in view of U.S. Patent No. 2,736,566 to Harl.

Mikami discloses a vehicle occupant restraint system that is basically the same as that recited in claim 3 except that the crash sensor lacks an additional simple crash sensor, as recited in the claim. Harl shows a system similar to that of Mikami wherein the system has a simple crash sensor (see column 3, lines 22-29) and a control unit (Fig. 4) that actuates a power actuator 8,9 (Fig. 1) to raise a restraining member 3 (Fig. 1) to a fully deployed position. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the vehicle occupant restraint system of Mikami such that the crash sensor has an additional simple crash sensor and the control unit actuates the power actuator to raise the restraining member from a partly deployed position to the fully deployed position according to an output of the simple crash sensor, such as the system disclosed in Harl. One would have been motivated to make such a modification in view of the suggestion in Harl that the simple crash sensor may be connected to a bumper of a vehicle to prevent the forward movement of an occupant upon collision.

9. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mikami in view of U.S. Patent No. 3,550,953 to Neale and U.S. Patent No. 6,352,312 B1 to Rees.

Mikami discloses a vehicle occupant restraint system that is basically the same as that recited in claims 5-7 except that the power transmitting member lacks a threaded rod, nut, gear box, and pivoting arms configuration, as recited in the claims.

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See Figures 4 and 5 of Mikami for the teaching that the power transmitting member employs an electric motor 46 (Fig. 4) with an output shaft extending laterally under the seat bottom, transmitting gear 48 (Fig. 4), and sector gear 44 (Fig. 4). Neale shows a seat bottom similar to that of Mikami wherein the seat bottom has a seat frame 7 (Fig. 5), a restraining member 1 (Fig. 5), a power actuator (Fig. 5) moving the restraining member from a retracted position (Fig. 1) to a deployed position (Fig. 3) via a power transmitting member (Fig. 5) that includes a threaded rod 30 (Fig. 5) extending in a fore-and-aft direction, a movable member 8 (Fig. 5) supporting the threaded rod and guided by the seat frame to be moveable in a fore-and-aft direction, a nut 28 (Fig. 7) attached to the seat frame and threadably engaging the threaded rod, and arms 11 (Fig. 7) pivotally supported by the movable member and each provided with an arcuate slot (Fig. 7) receiving a pin 12 (Fig. 7) attached to the seat frame. Rees shows a seat bottom similar to that of Mikami wherein the seat bottom has a power actuator (Fig. 1) with a threaded rack 46 (Fig. 3) and movable member (Fig. 1) with a gear box 44 (Fig. 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the vehicle occupant restraint system of Mikami such that the power transmitting member has a threaded rod extending in a fore-and-aft direction, a movable member supporting the threaded rod and guided by the seat frame to be moveable in a fore-and-aft direction, a nut attached to the seat frame and threadably engaging the threaded rod, arms pivotally supported by the movable member and each provided with an arcuate slot receiving a pin attached to the seat frame, and the moveable member comprises a gear box, such as the seat bottom

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disclosed in Neale. One would have been motivated to make such a modification in view of the suggestion in Neale that the moveable member, threaded rod, and nut configuration allows for independent, incremental adjustment of front portions of the seat member. One would have been motivated to make such a modification in view of the suggestion in Rees that the gear box and threaded rack configuration provides motorized fore-and-aft movement of seat parts.

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mikami in view of Neale and Rees as applied to claims 5-7 above, and further in view of U.S. Patent No. 6,450,573 B1 to Yamaguchi et al.

Mikami discloses a vehicle occupant restraint system that is basically the same as that recited in claim 8 except that power actuator lacks a pyrotechnical actuator and the nut lacks a split piece, as recited in the claim. Yamaguchi et al. show a system similar to that of Mikami wherein the system has a threaded rod 9b (Fig. 3) connected to a restraining member 4 (Fig. 2), a power actuator (Fig. 3) with a pyrotechnical actuator 10 (Fig. 3) adapted to move the threaded rod in a direction to deploy the restraining member, and a lock 14 (Fig. 3) with a split piece 16 (Fig. 3) normally urged by a spring member 17 (Fig. 3) against a slanted surface 15b (Fig. 3) of a guide member 15 (Fig. 3) to engaged the threaded rod and is allowed to move freely with respect to the threaded rod when the threaded rod is actuated by the pyrotechnical actuator. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the vehicle occupant restraint system of Mikami such that the power actuator has a pyrotechnical actuator adapted to move the threaded rod in a

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direction to deploy the restraining member while the electric motor is adapted to turn the rod, and the nut has a split piece normally urged by a spring member against a slanted surface of a guide member to threadably engage the threaded rod when the threaded rod is turned in a normal direction and is allowed to move freely with respect to the threaded rod when the threaded rod is actuated by the pyrotechnical actuator in the direction to deploy the restraining member, such as the system disclosed in Yamaguchi et al. One would have been motivated to make such a modification in view of the suggestion in Yamaguchi et al. that the pyrotechnical actuator and lock configuration provides a compact, lightweight design that has high mechanical strength.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to vehicle occupant restraint systems:

U.S. Pat. No. 3,858,930 to Calandra et al. U.S. Pat. No. 4,334,709 to Akiyama et al.

U.S. Pat. No. 4,652,049 to Maruyama et al. JP Pat. No. 05286387 to Yamamoto

JP Pat. No. 05286386 to Yamamoto U.S. Pat. No. 5,558,399 to Serber

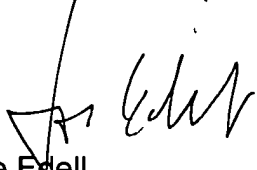
U.S. Pat. No. 6,050,635 to Pajon et al. U.S. Pat. No. 6,386,631 B1 to Masuda et al.

U.S. Pat. No. 6,837,540 B2 to Yamaguchi et al.

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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph F. Edell whose telephone number is (703) 605-1216. The examiner can normally be reached on Mon.-Fri. 8:30am-5:00pm.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joe Edell
January 28, 2005